No. 486. Decade V.—Vol. I.—No. XII. Price 1s. 6d. net.

THE

GEOLOGICAL MAGAZINE

OR,

Monthly Journal of Geology.

WITH WHICH IS INCORPORATED

"THE GEOLOGIST."

EDITED BY

HENRY WOODWARD, LL.D., F.R.S., F.G.S., &c.

ASSISTED BY

WILFRID H. HUDLESTON, F.R.S., &c., DR. GEORGE J. HINDE, F.R.S., &c., AND HORACE B. WOODWARD, F.R.S., &c.

DECEMBER, 1904.

CONTENTS.

I. ORIGINAL ARTICLES. PAGE

1. The Kishon and Jordan Valleys. By Professor T. G. BONNEY, D.Sc., LL.D., F.R.S. (With a Text-Map.) 575
2. On a new Crocodilian Genus from Stormberg Beds, South Africa. By R. BROOM, M.D., D.Sc., etc. (With 4 Text-Figures.) 582
3. Homotaxial Equivalents of the Lower Culm of North Devon. By WHEELTON HIND, M.D., F.G.S., etc. 584
4. The Devonian Rocks of Cornwall. By W. A. E. USSHER, F.G.S. 587
5. The Older Deutozoic Rocks of North Britain. By J. G. GOODCHILD, F.G.S., of the Geological Survey, etc. (With a Text-Illustration.) 591

ORIGINAL ARTICLES—*continued.* PAGE

6. Lower Miocene Beds between Cairo and Suez. By T. BARRON, A.R.C.S., F.G.S. 603

II. REVIEWS.

1. Photographs of Geological Interest in the United Kingdom. (With Plate XVIII and a Text-Figure.) 608
2. Granular Carbonate Rocks, their Origin and Structure. By B. Lindemann 613
3. A. C. Seward's Catalogue of Mesozoic Plants (Lias and Oolite) 615

III. REPORTS AND PROCEEDINGS.

1. Geological Society of London—November 9th, 1904 617
2. Manchester Literary and Philosophical Society 618

IV. CORRESPONDENCE.

1. Mr. A. R. Hunt 619
2. Rev. O. Fisher 621
3. Messrs. Wright & Polkinghorne 622

V. MISCELLANEOUS 622

With this Number is presented an Extra Sheet, containing Index and Title for Decade V, Vol. I, 1904.

LONDON: DULAU & CO., 37, SOHO SQUARE.

☞ **The Volume for 1903 of the GEOLOGICAL MAGAZINE is ready, price 20s. net. Cloth Cases for Binding may be had, price 1s. 6d. net.**

Robert F. Damon,

WEYMOUTH,

Begs to call attention to his Varied Stock of

NATURAL HISTORY SPECIMENS,

CONSISTING OF

Minerals, Fossil and Recent Shells, also Fishes, Reptilia, Crustacea, Echinodermata, etc., etc., Dry and in Spirit.

				£	s.	d.
Mounted Reptilia and Fishes (Lidth de Jeude Collection) Cabinet of Insects, etc., in 24 glazed drawers (Godeffroy Collection)				To be sold at a very low figure.		
100	Species of Foreign Fishes in Spirits (Godeffroy Collection)		...	7	7	0
250	do.	do.	...	20	0	0
50	Species of Foreign Amphibia and Reptilia	do.	...	1	10	0
100	do.	Crustacea do.	...	2	10	0

The following also in Spirits :

Sphenodon punctatum, Metopocerus cornutus, Crocodilus acutus, Clemmys rugosa, Homalochilus striatus, Alsophis anomalus, Hydrallmania, etc., etc., etc.

1,600 Species of **British Fossils, £100.**

Various **Reptilian Remains** and **Ammonites** from the Lias of Lyme Regis.

Slab of **Extracrinus briareus,** showing several heads.

		£	s.	d.
10 Species (35 Specimens) Fishes ... ... 16 Species (60 Specimens) Crustacea ... ... 29 Species (74 Specimens) Mollusca, etc., etc.	Lower Carboniferous, Scotland.	10	0	0
Collection of Old Red Sandstone Fishes		15	15	0
200 Species Silurian Mollusca, etc.		7	7	0
Slab (30 cm. by 68 cm.) of **Trigonia clavellata,** from the Coral Rag, Weymouth		3	0	0
Fine Slab (61 cm. by 71 cm.) containing characteristic Fossil Shells from the Inferior Oolite, Dorset		3	3	0
Another Slab (36 cm. by 54 cm.)		1	15	0

Collection of **Alpine Fossils**, 87 Species (347 Specimens).

Vertebrate Remains from the Pliocene Tertiary, Siwalik Hills, India.

Rudistes, Hippurites, Requienia, etc.: Cretaceous (Senonien), Dordogne.

A Grand Collection of **Fishes,** beautifully preserved, from the Cretaceous Beds of the Lebanon, Syria. (Described by Mr. J. Davis and others.)

Bothriolepis, Eusthenopteron, Phaneropleuron, etc., from the Devonian of Canada.

200 Specimens of **Rocks** from Puy-de-Dome.

100 Specimens of **Rocks** and **Minerals** for Schools, etc.

150 Specimens of **Rocks** from Great Britain, including 43 Specimens of **Igneous** and **Metamorphic Rocks** from Scotland. £3 10s.

DULAU & CO., 37, SOHO SQUARE, LONDON, W.

GEOLOGICAL BOOKS AND PAPERS.

HUME (W. F.). The Rift Valleys and Geology of Eastern Sinai. London, 1901. 8vo. Cloth. net, 2*s.*

HUMFREY (J. C. W.). Effects of Strain on the Crystalline Structure of Lead. 1902. 4to. 2*s.*

JONES (T. R.). Permian Glacial Moraine in South Africa. 1899. 8vo. 6*d.*

JUKES-BROWNE (A. J.). The Cretaceous Rocks of Britain. Vol. iii: The Upper Chalk of England. With contributions by WILLIAM HILL. Roy. 8vo. Cloth. 10*s.*

JULIAN (H. FORBES) & SMART (EDGAR). Cyaniding Gold and Silver Ores. A Practical Treatise on the Cyanide Process. Illustrated. 1904. Roy. 8vo. Cloth. net, 21*s.*

KERR (GEORGE L.). Practical Coal Mining: A Manual for Managers, Under-Managers, Colliery Engineers, and others. Illustrated. 3rd edition, thoroughly revised. Cr. 8vo. 12*s.* 6*d.*

KOTO (B.). Geologic Structure of the Malayan Archipelago. Tokyo, 1899. 4to. Map. 2*s.*

——— Geology of the Dependent Isles of Taiwan. 1900. 4to. Five plates. 2*s.* 6*d.*

LAPPARENT (A.). Traité de Géologie. Quatrième édition. Paris, 1900. Three vols. 8vo. 28*s.*

LEIGHTON (T.). The Lower Greensand of East Surrey. 1894. 8vo. 1*s.*

LEWIS (H. C.). On the Genesis and Matrix of the Diamond. London, 1897. 8vo. Two plates. Cloth. 3*s.* 6*d.*

MACLAREN (J.). Report on the Ravenswood Gold Field, Queensland. 1900. Folio. Two maps and eight sections. 2*s.*

McPHERSON (W.). Zones of the Chalk near Brighton. 1902. 8vo. 1*s.*

MAMMATT (E.). Geological Facts and Practical Observations, intended to elucidate the formation of the Ashby Coal-field. 4to. Map and profiles, coloured sections, and 102 coloured plates of vegetable fossils. Cloth. 20*s.*

MERRILL (G. P.). The Non-Metallic Minerals. Washington, 1901. 8vo. Thirty plates. 3*s.* 6*d.*

MICHAUT (A.). L'Industrie Aurifère au Transvaal: son Passé—son Avenir. Paris, 1904. 8vo. 4*s.* 6*d.*

MOURLON (M.). Monographie du Famennien. Bruxelles, 1875–86. 8vo. Six plates. 5*s.*

PAMELY (CALEB). The Colliery Manager's Handbook. 5th edition, carefully revised, and greatly enlarged. Illustrated. Roy. 8vo, pp. 1,208. net, 25*s.*

PENNING & JUKES-BROWNE. Text-book of Field Geology. 2nd edition. London, 1894. 8vo. Illustrated. Cloth. 3*s.* 6*d.*

PETTERD (W.). Catalogue of the Minerals of Tasmania. Launceston, 1896. 8vo. Cloth. 2*s.*

PHILLIPS (H. JOSHUA). Gold Assaying. A Practical Handbook, giving the *modus operandi* for the Accurate Assay of Auriferous Ores and Bullion, and the Chemical Tests required in the Processes of Extraction by Amalgamation, Cyanidation, and Chlorination. With an Appendix of Tables and Statistics. London, 1904. Illustrated. Cr. 8vo. Cloth. net, 7*s.* 6*d.*

ROBERTS (PETER). Anthracite Coal Communities. Cloth. 8vo. net, 15*s.*

SALTER (A.). Pebbly Gravel from Goring Gap to the Norfolk Coast. 1896. 8vo. 9*d.*

SEGUENZA (G.). Studii stratigrafici sulla Formazione Pliocenica dell' Italia meridionale. Roma, 1873–77. 8vo. Two sections. 5*s.*

THOMPSON (A. BEEBY). The Oil Fields of Russia and the Russian Petroleum Industry. A Practical Handbook on the Exploration, Exploitation, and Management of Russian Oil Properties, etc. London, 1904. Illustrated. Imp. 8vo. Cloth. net, 63*s.*

WILCOCKS (SIR WILLIAM). The Assuan Reservoir and Lake Moeris. A Lecture delivered at a meeting of the Khedivial Geographical Society, Cairo, 16th January, 1904. With Translations in French and Arabic, and 5 plates. Imp. 8vo. net, 5*s.*

PALAEOZOISCHE ARACHNIDEN.

DR. A. FRITSCH.

This monograph treats on Silurian, Carboniferous, and Permian Arachnids. Text 86 pp., with 100 figures ; 15 plates in Phototypes with 80 figures. It describes 57 species, of which about half are from Bohemia.

19 SPIDERS. 25 OPILIONIDS. 13 SCORPIONIDS.

PRICE £2.

In commission by F. Rivnác, Prague, supported by the Imp. Academie of Science in Vienna (Baue Stiftung).

TABLE OF BRITISH STRATA.

Compilers :

Henry Woodward, LL.D., F.R.S., F.G.S.
Horace B. Woodward, F.R.S., F.G.S.

MANY years have elapsed since the publication of a Table of British Strata. The Table of British Sedimentary and Fossiliferous Strata by Messrs. H. W. Bristow and R. Etheridge, and that by Mr. Bristow, showing the Relative Thickness of the Strata, date back to 1873.

Meanwhile many changes have been made in nomenclature, and many new local subdivisions have been marked out in the series of strata. To represent these in tabular form as an aid to the memory is one object of the present publication.

The student should bear in mind that Nature does not draw the hard and fast lines which appear in the Table, and that the divisions, like those in human history, are epochs artificially limited for the convenience of grouping events. In many cases it is possible to indicate only the general position of the minor divisions in the great series of geological formations. Minute correlation of strata, dependent on organic remains, cannot here be attempted.

The aim of the compilers has been to represent as fully and fairly as possible the views most widely accepted at the present time, and thus in grouping the Wealden in the Jurassic system and in retaining the Permian in the Palæozoic era they seek to assert general rather than individual opinion.

Price, 5s. net; folded in book form, 6s. net; Mounted on linen, with rollers and varnished, 16s. net.

London: DULAU & CO., 37, Soho Square.

All Communications for this Magazine should be addressed

TO THE EDITOR OF THE GEOLOGICAL MAGAZINE, 129, BEAUFORT STREET, CHELSEA, LONDON, S.W.

Books and Specimens to be addressed to the Editor, care of

MESSRS. DULAU & CO., 37, SOHO SQUARE, LONDON, W.

STEPHEN AUSTIN AND SONS, LIMITED, PRINTERS, HERTFORD.